TM 11-5820-526-12

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR AND ORGANIZATIONAL MAINTENANCE MANUAL

RECEIVER, RADIO R-1122/GR
AND
RECEIVER, RADIO R-1433/UR

This copy is a reprint which includes current pages from Changes 1 through 3.

HEADQUARTERS, DEPARTMENT OF THE ARMY
SEPTEMBER 1966

WARNING

Be careful when working on the 115-volt or 230-volt ac line connections. Serious injury or death may result from contact with these terminals.

TECHNICAL MANUAL
NO. 11-5820-526-12

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC, 7 *September 1966*

OPERATOR AND ORGANIZATIONAL MAINTENANCE MANUAL
RECEIVER, RADIO R-1122/GR AND RECEIVER, RADIO R-1433/UR

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***This manual supersedes that portion of TM 11-5820-526-15, 8 October 1964, that pertains to operation and organizational maintenance.**

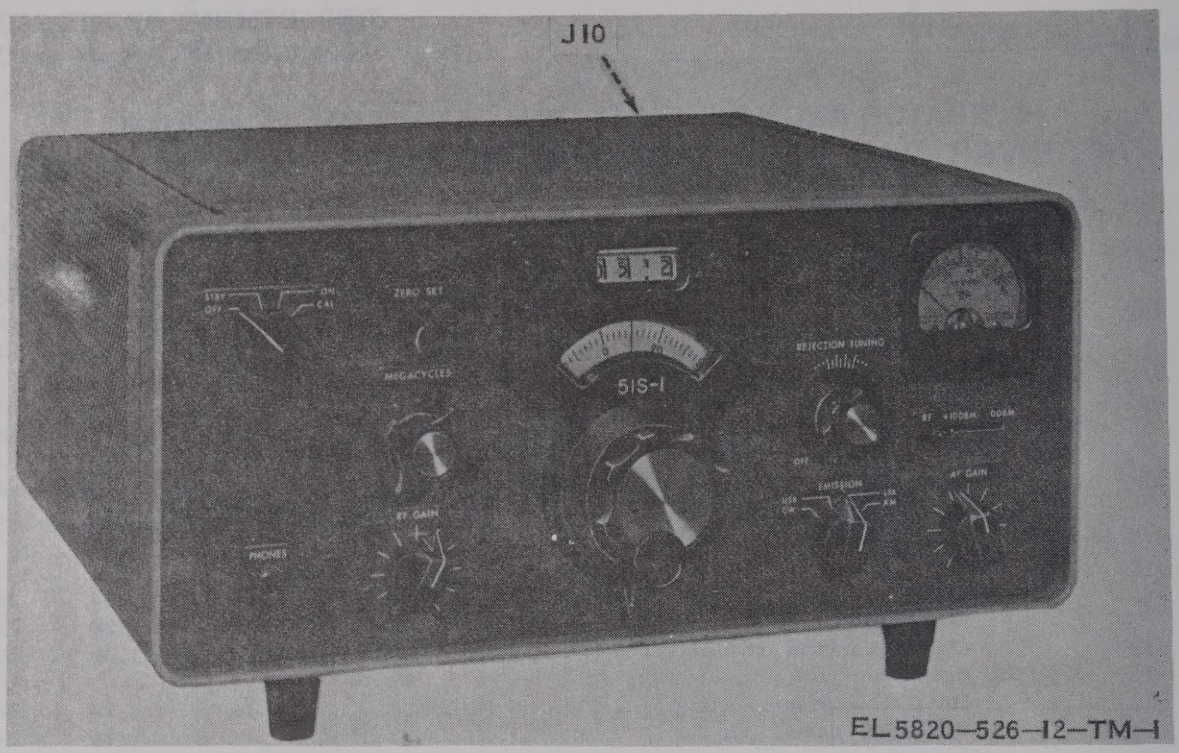

Figure 1-1. Receivers, Radio R-1433/UR less power cord or R-1122/GR, less power cord and accessories.

CHAPTER 1
INTRODUCTION

Section I. GENERAL

1-1. Scope

This manual describes Receiver, Radio R-1122/GR (Collins 41S-1) and Receiver, Radio R-1433/UR (Collins 51S-1A) (figs. 1-1, 1-2 and 1-3) and covers their operation and organizational maintenance. Information in this manual applies to both receivers unless specified otherwise.

1-2. Indexes of Publications

a. DA Pam 310-4. Refer to the latest issue of DA Pam 310-4 to determine whether there are new editions, changes, or additional publications pertaining to the equipment.

b. DA Pam 310-7. Refer to DA Pam 310-7 to determine whether there are modification work orders (MWO's) pertaining to the equipment.

1-3. Forms and Records

a. Reports of Maintenance and Unsatisfactory Equipment. Maintenance forms, records, and reports which are to be used by maintenance personnel at all maintenance levels are listed in and prescribed by TM 38-750.

b. Report of Packaging and Handling Deficiencies. Fill out and forward DD Form 6 (Report of Packaging and Handling Deficiencies) as prescribed in AR 700-58/NAVSUP PUB 378/AFR 71-4/MCO P4030.29, and DSAR 4145.8.

c. Discrepancy in Shipment Report (DISREP) (SF 361). Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in AR 55-38/NAVSUPINST 4610.33/AFM 75-18/MCO P4610.19A, and DSAR 4500.15.

1-3.1. Reporting of Errors

Report of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications and Blank Forms) and forwarded direct to Commander, US Army Electronics Command, ATTN: AMSEL-MA-C, Fort Monmouth, NJ 07703.

Section II. DESCRIPTION AND DATA

1-4. Purpose and Use

The R-1433/UR and the R-1122/GR receive continuous wave (cw), amplitude modulated (am.), and single-sideband (ssb) signals in the frequency range of 0.2 to 30 megacycles (mc). Coverage is continuous in thirty 1-megacycle bands. The receivers are identical except for the power supply. The R-1433/UR requires 28 volts direct current (dc) power, and the R-1122/GR requires 115 volts alternating current (ac) or 230 volts ac, 50 to 400 cycles per second (cps), single-phase power. Currently the R-1433/UR is employed for airborne use and the R-1122/GR is employed for ground use.

1-5. Technical Characteristics

Frequency range	0.2 to 30.0 megacycles in thirty 1-megacycle bands, continuous coverage.
Modes of operation	Upper sideband, lower sideband, am, or cw.
Power requirements:	
R-122/GR	115 vac, 1.2 amps or 230 vac, 0.6 amps, 400 cps, single phase.
R-1433/UR	28 vdc, 4.5 amps.
Rf input impedance	50 ohms, unbalanced.
500-kc. if, output at J9	50 mv minimum into 50-ohm load with 5-uv input signal.
Matching speaker impedance.	4 or 600 ohms.
Balance line output impedance.	600 ohms balanced, center-tap ground reference or floating.
Matching phone patch impedance (local).	500 to 600 ohms.
Frequency stability	During temperature change from 0°C to +50°C., after 20 minutes warmup, audio output frequency will not vary more than ±885 cps for carrier frequencies from 2 to 7 mc. From 7 mc to 30 mc, stability varies from 652 cps at 7.00 mc to 1210 cps at 30 mc. For ±10 per

	cent line voltage variation, frequency varies not more than ±100 cps.
Calibration accuracy	When zeroed to nearest 100-kc calibration point, the frequency will be within ±400 cps.
Dial backlash	Not more than 100 cps.
Audio frequency response am.	100 to 2500 cps ±6 db (line channel). 200 to 2500 cps ±6 db (local channel).
Ssb (high frequency limit determined by filter bandwidth).	300 to 3050 cps ±3.5 dbs (line channel). 350 to 3050 cps ±3.5 db (local channel).
Audio output distortion (ssb test signal 100 microvolts input, 1.0 watt local output, 1 mw (0 dbm line output):	
Local	Not more than 10 percent.
Line	Not more than 1.2 percent.
Q-multiplier rejection notch depth.	Not less than 40 db.
Receiver sensitivity (nominal):	
Am	3.0 microvolts for not less than 10–db signal + noise/noise (2 to 30 mc).
	15.0 microvolts for not less than 10–db signal + noise/noise (0.5 to 2 mc).
	20.0 microvolts for not less than 10–db signal + noise/noise (0.2 to 0.5 mc).
Ssb and cw	0.6 microvolt for not less than 10–db carrier on carrier off (2 to 30 mc).
	3.0 microvolts for not less than 10–db carrier on carrier off (0.5 to 2.0 mc).
	4.0 microvolts for not less than 10–db carrier on carrier off (0.2 to 0.5 mc).
Selectivity:	
Cw (at 6–db points).	800-cycle-per-second bandwidth, nominal (650 cps minimum, 950 cps maximum; 300-cps maximum bandwidth optional).
Ssb (at 3.5–db points).	2.75-kilocycle-per-second bandwidth (2.4-kc bandwidth optional).
Am. (at 6–db points.	5.0-kilocycle-per-second bandwidth.
Spurious responses (above 2 mc):	
Internal spurious signals.	Less than 1 microvolt equivalent signal.
Other spurious signals.	Not less than 70 db down, except from 4.8 to 5.2 mc, not less than 40 db down.
Image response	Not less than 50 db down from 2 to 25 mc; not less than 40 db down from 25 to 30 mc; referenced to midband.

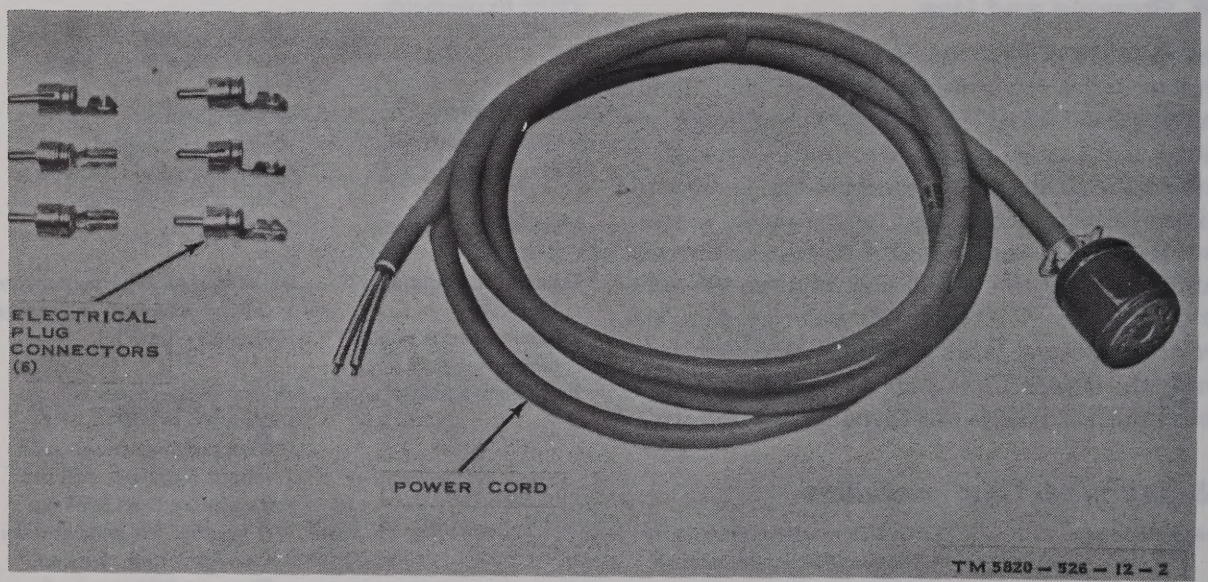

Figure 1-2. Electrical plug connectors and power cord for R-1433/UR.

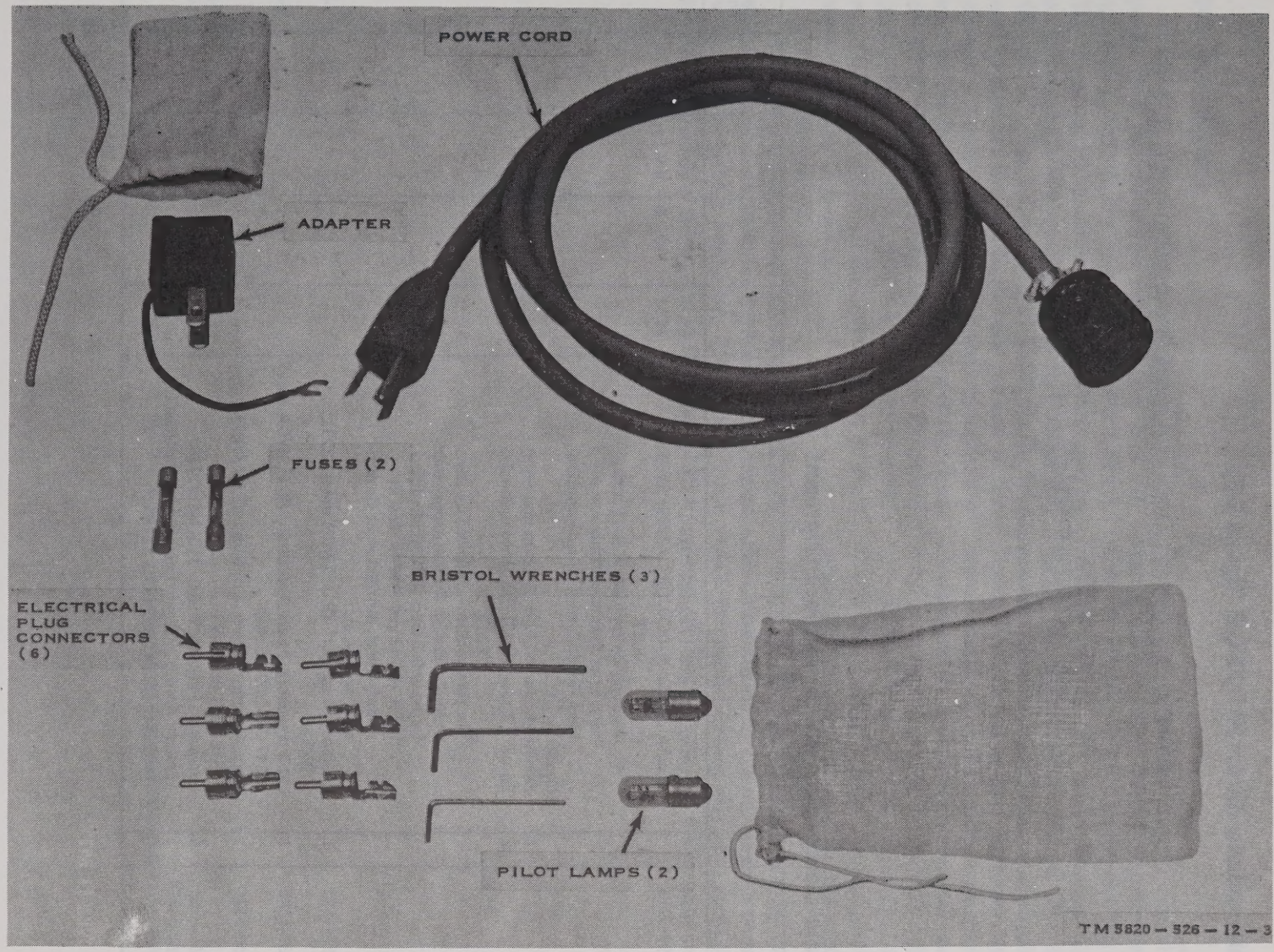

Figure 1-3. Maintenance kit and power cord for R-1122/GK.

1-6. Maintenance Kit for R-1122/GR (figure 1-3).

Quantity	*Components*
2	Fuse, cartridge, 1.5 amp (for 115-volt ac power), 0.75 amp (for 230-volt ac power):
1	Bristol Wrench No. 4.
1	Bristol Wrench No. 6.
1	Bristol Wrench No. 8
1	Lamp, incandescent, type No. 47.
1	Lamp, incandescent, type No. 48.
6	Electrical plug connectors.

1.7 Items Comprising an Operable Equipment

FSN	QTY	Nomenclature, part No., mfr code	Weight (lb)	Dimensions (in.)			Fig. No.
				Height	Depth	Width	
5820-770-2254		Receiver, Radio R-1122/GR: 51S-1	28	6 9/16	14	14 3/4	1
5820-999-3915		Receiver, Radio R-1433/UR: 13499: 51S-1A	28	6 9/16	14	14 3/4	2
		NOTE Items which are parts of R-1122/GR only, or of R-1433/UR only are so identified following item description.					
		Consisting of :					
	1	Receiver Radio R-1122/GR (Bare unit only)					
	1	Receiver Radio R-1433/UR (Bare unit only)					
		NOTE The part number is followed by the applicable 5-digit Federal supply code for manufacturers (FSCM) identified in SB 708-42 and used to identify manufacturer, distributor, or Government agency, etc.					
5935-552-4372	1	Adaptor, Connector: (R-1122/GR only) 5273L; 04009					1-3
5995-937-4283	1	Cable Assembly, Power, Electrical: (R-1122/GR only) 547-2795-00; 13499					1-3
5995-059-5726	1	Cable Assembly, Power, Electrical: (R-1433/UR only) 548-8245-00;13499					1-2
5935-856-4005	6	Connector, Plug, Electrical: 3501MC 82389					1-2
5120-060-6423	1	Alinment Tool, Electronic Equipment: (Installed in equipment) 547-2796-00; 12499					

1-8. Description

a. Receiver. The receiver chassis is mounted in a perforated wraparaound cabinet (fig. 1-1). All operating controls are located on the front panel. The top panel of the cabinet is hinged at the rear to permit access to the top of the chassis. Fuses F401 (R-1433/UR, fig. 3-3) and F1 (R-1122/GR, fig. 3-4) are located on the top right rear portion of the chassis. All receiver connectors are located on the rear panel (fig. 2-2) with the exception of the chassis EXT VFO jack J6 (fig. 3-3) and the PHONES jack J16 on the front panel (fig. 2-1). The receiver may be mounted in an equipment rack or on a mounting tray (not shown).

b. Power Cords and Adapter.

(1) The 115-volt ac power cord (fig. 1-3) is gray with a nine-pin connector on one end which mates with chassis power connector J10 on the rear panel (fig. 2-2). The other end is terminated in a three-prong connector (heavy round prong is ground). If a mating 115-volt ac outlet is not available, the adapter is used to convert the connector to a two-prong. The green lead on the adapter should be connected to ground. The 230-volt ac power cord is black, but otherwise physically identical to the 115-volt ac cord. However, the nine-pin connectors on the power cords are not wired in the same manner, and the correct power cord must be used in accordance with the supply voltage.

(2) The 28-volt dc power cord (fig. 1-2) contains the nine-pin connector on one end and two stripped leads on the other end for connection to the aircraft 28-volt dc supply.

c. Electrical Plug Connectors (figs. 1-2 and 1-3). The electrical plug connectors are used to terminate the cables connected to the jacks on the rear panel of the receiver (fig. 2-2).

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CHAPTER 2

OPERATING INSTRUCTIONS

Section I. OPERATOR'S CONTROLS

Caution; **Be sure that the correct power cord is used for the R-1122/GR. Use the gray power cord for 115-volt ac and the black power cord for 230-volt ac power.**

2-1. Controls and Indicators on Front Panel (fig. 2-1)

The chart below lists the operator's controls and indicators for the receiver.

Control or indicator	Function
ZERO SET control	Used to adjust the hairline on the kilocycle dial during calibration.
OFF-ON-STBY-CAL switch.	*Switch position* — *Action* OFF — Removes operating power from receiver. ON — Applies operating power to receiver. STBY — Permits use of external transmit-receive relay. CAL — Permits calibration of kilocycle dial when used with ZERO SET control. Energizes internal calibration oscillator.
RF GAIN control	Adjusts sensitivity of receiver. Maximum sensitivity is in fully clockwise position.
Tuning control	Tunes receiver operating frequency in conjunction with MEGACYCLES selector.
MEGACYCLES selector.	Selects receiver operating frequency on the megacycles counter in thirty 1-megacycle steps.
Dial lock control	Locks tuning control when turned counterclockwise.
Megacycle counter	Indicates 1st 2 digits of operating frequency (1-30 mc).
10th megacycle counter.	Indicates 3d digit of operating frequency (00.1).
Kilocycle dial	Indicates 4th and 5th digits of operating frequency (00.011).
EMISSION switch	Selects type of reception. *Switch position* — *Action* CW — Permits cw reception. USB — Permits ssb reception. Selects upper sideband. LSB — Permits ssb reception. Selects lower sideband. AM — Permits reception of amplitude modulate signals.
AF GAIN control	Controls level of audio signals applied to headset or loudspeaker.
Line audiofrequency gain adjust control (screwdriver adjustment).	Adjusts audio output at 600 Ω remote line connections on rear panel of receiver.
REJECTION TUNING control.	Permits rejection of an interfering signal by turning clockwise until the interferng signal is reduced to a minimum. At OFF position, the control is deactivated.
Meter	Indicates radiofrequency (rf) input in decibels (db) and audio output on the remote 600-ohm line in dbm.

Control or indicator	Function
Meter switch	Selects db scale on the front panel. *Switch position* — *Action* RF — Selects 0–100 db scale for measurement of relative rf input. ODBM — Selects scale for measurement of audio output signals of −10 to 6 dbm (decibels referred to 1 milliwatt) on the 600-ohm balanced line. Meter scale is read directly. +10 DBM — Selects −10 to +6 dbm scale for measurement of audio output signals on the 600-ohm balanced line. +10 dbm must be added to meter reading.
PHONES jack	Accepts headset connector. *Note.* Headset plugged into this jack disconnects the speaker plugged into the 4Ω jack on the rear panel.

2–2. Rear Panel Connectors
(fig. 2–2)

The chart below lists the connectors on the rear panel of the receiver.

Connectors	Action
POWER connector J10.	Mates with connector on the power cord. Accepts operating power for the receiver.
SPARE jacks J2, J3, and J4.	Spare jacks not wired to the receiver.
EXT LF TUNER jacks J13 and J14.	Jacks for connections to a low frequency tuner in the 0.2- to 2.0-mc range. Jack J14 is the input jack, and J13 is the output jack. *Note.* The jumper across J13 and J14 (inside rear panel) must be removed when using an external tuner.
600Ω terminals on TB1.	Provide connections for audio output to 600-ohm balanced line.
GRD terminal on TB1.	Ground connection for 600-ohm balanced line.
600Ω UN-BAL jack J11.	Provides connection for audio output to unbalanced 600-ohm line. Used for external 4-ohm speaker with line-to-voice coil transformer.
IF OUT jack J9	500-kc output jack.
SIDE TONE jack J8	Input jack for monitoring sidetone.
EXT RF GAIN jack J7.	Provides connection to the remote RF gain control. *Note.* The receiver is shipped with jack J7 jumpered to ground through the T4 secondary (fig. 3–2). Jumpers on terminals 2, 3, and 4 of TB1 on the rear panel must be removed when an external gain control is used, and new jumpers must be used as shown. Jack J7 must not be left open or ungrounded, or the receiver will be muted.
4Ω jack J12	Provides connection to the external 4-ohm speaker. *Note.* When earphones are plugged into the PHONES jack on the front panel, J12 is disabled.
MUTE jack J5	Provides connection to the external standby-receive switching relay. *Note.* When muting is used, the OFF-STBY-ON-CAL switch on the front panel must be in the STBY position. For proper muting, the contacts of the relay should be closed during receiving and open during transmission.
ANT jack J1	Provides connection to the antenna.

2–3. Chassis Connectors and Fuses
(figs. 3–3, 3–4)

Connector or fuse	Action
Fuse F1 (R–1122/GR).	1.5 amperes for 115-vac operation, 0.75 ampere for 230-vac operation.
Fuse F401 (R–1433/UR).	4.5 amperes for 28-vdc operation.
EXT VFO jack J6	Provides connection to the external line for the variable frequency oscillator used for precise calibration. *Note.* Jack is switching type which opens contacts when plug is inserted, disconnecting the internal variable oscillator. Injection frequency must be between 2.5 and 3.5 mc with receiver tuned to desired channel frequency after each change in injection frequency.

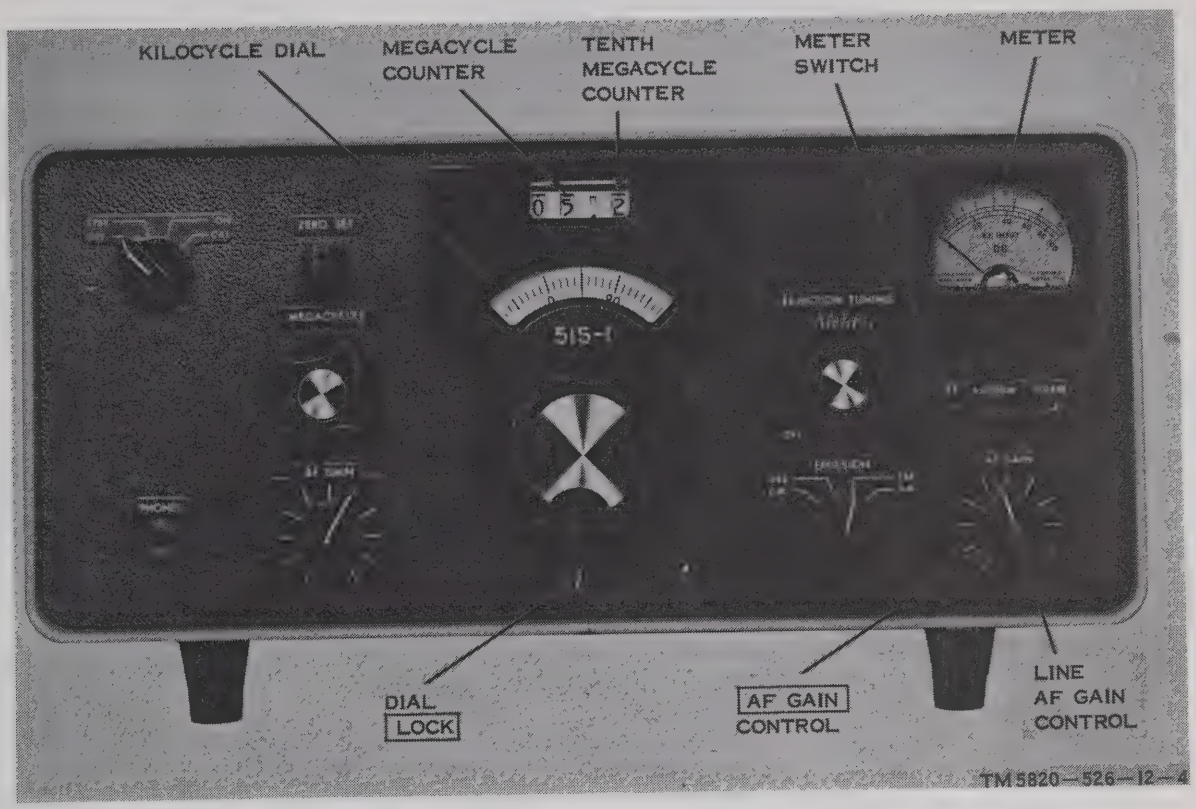


Figure 2-1. Operating controls.

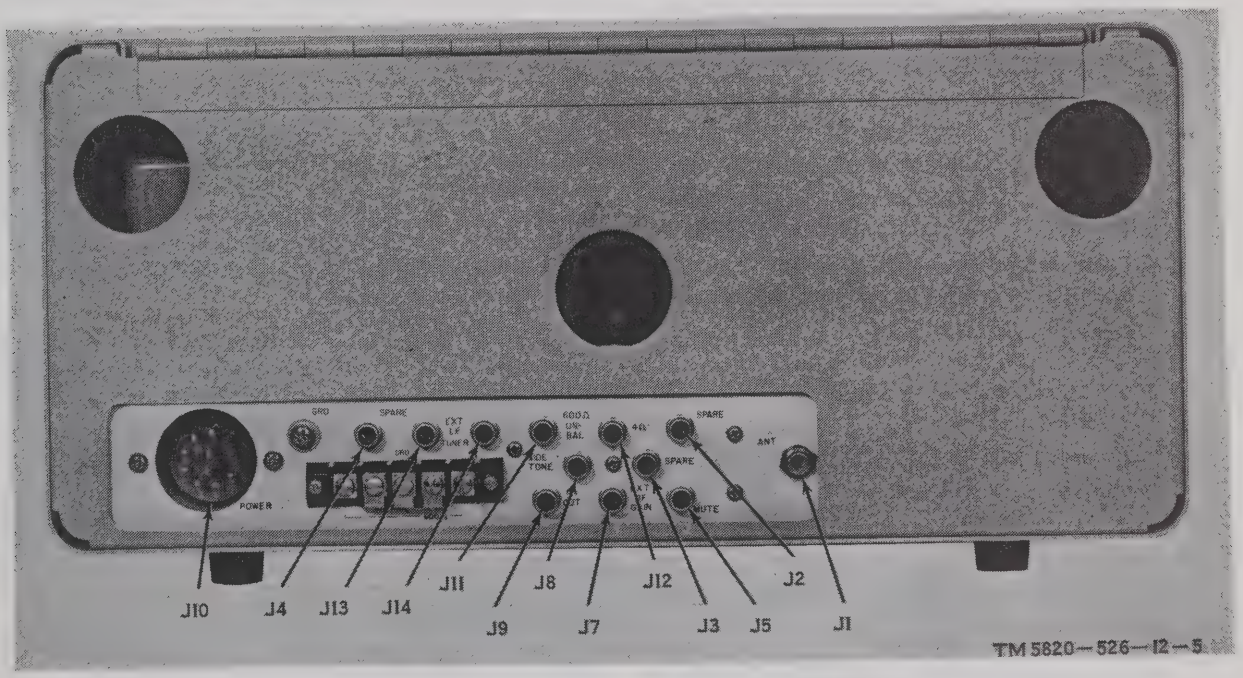


Figure 2-2. Rear panel connectors.

Section II. OPERATION

2–4. Modes of Operation
(fig. 2–1)

a. Single-Sideband Reception.

(1) Turn the OFF-STBY-ON-CAL switch to the ON position.
(2) Turn the MEGACYCLES control to obtain an indication on the magacycle counter corresponding to the desired band.
(3) Turn the RF GAIN control fully clockwise.
(4) Move the EMISSION switch to USB for upper sideband reception or to LSB for lower sideband reception.
(5) Set the AF GAIN control for a comfortable listening level.
(6) Turn the tuning control to obtain the most natural sounding audio output.
(7) Adjust the RF GAIN control to the position which yields the best reception to background noise ratio.
(8) Readjust the local AF GAIN control if necessary.
(9) An interfering heterodyne may be tuned out by adjusting the REJECTION TUNING control for minimum interference.
(10) Relative rf input levels (signal strengths) may be observed by moving the RF/+10DBM/ODBM selector to RF position. To adjust the line audio-frequency (af) gain (for audio output to the external 600 Ω line), set the meter switch to the ODBM or +10DBM position and set the line af gain adjust to the desired level. The line af gain adjust is a screwdriver adjustment located in the center of the AF GAIN control knob (fig. 2–1).

b. CW Reception.

(1) Move the OFF-STBY-ON-CAL switch to ON.
(2) Turn the MEGACYCLES control to obtain an indication on the megacycle counter corresponding to the desired band.
(3) Turn the RF GAIN control fully clockwise.
(4) Move the EMISSION switch to the USB position. If interference is present, move the EMISSION switch to CW for greater selectivity.
(5) Tune in the signal by turning the tuning control. If the EMISSION switch is in the CW position, tune for a definite peak in signal strength.
(6) Turn the AF GAIN control approximately to midposition, and adjust the RF GAIN control to obtain the best reception to background noise ratio.

c. AM Reception.

(1) Move the OFF-STBY-ON-CAL switch to ON.
(2) Turn the MEGACYCLES control to obtain an indication on the megacycle counter corresponding to the desired band.
(3) Turn the RF GAIN control fully clockwise.
(4) Move the EMISSION switch to the AM position.
(5) Set the local AF GAIN for a comfortable listening level.
(6) Turn the tuning control to obtain the best reception.
(7) Adjust the RF GAIN control to obtain the best reception to background noise ratio.
(8) Readjust the AF GAIN control if necessary.

Note. During AM reception (EMISSION switch in AM position) with an interfering signal present, the resulting heterodyne may be tuned out by either of two settings of the REJECTION TUNING control. However, only one of the settings will allow the desired signal to be detected properly. Select the REJECTION TUNING setting which yields the better intelligibility.

d. Interference. If interference and/or selective fading are present, better reception of AM signals may be obtained by moving the EMISSION switch to the USB or the LSB position, zero beating the desired carrier and proceeding as in *a*(6), (7), and (8) above. Move the EMISSION switch to either USB or LSB, whichever results in the better reception.

2–5. Calibration

a. Move the OFF-STBY-ON-CAL switch to CAL.

b. Move the EMISSION switch to USB or LSB.

c. Turn the tuning control to obtain an indication of 0 kc on the kilocycle dial. (The megacycle counter and 10th megacycle counter reading should be close to the desired frequency of operation.)

d. Turn the tuning control to obtain an indication of zero beat in the headset or speaker.

e. Using the ZERO SET knob, move the hairline to 0 on the kilocycle dial.

f. Return OFF-STBY-ON-CAL switch to ON.

2–6. Dial Lock

(fig. 2–1)

a. To lock the tuning control at a particular frequency, move the dial LOCK mechanism, located under the tuning control, in a counterclockwise direction.

b. To unlock the tuning control, turn the dial LOCK mechanism in a clockwise direction.

Section III. PREFLIGHT (DAILY) OPERATIONAL CHECK, R–1433/UR

2–7. General

The operational check supplements the inspection procedures in the aircraft operator's checklist. The operational check should be performed just prior to flight. The pilot should report any malfunction or failure noted in flight or during the preflight check in accordance with the requirements set forth in TM 38–750.

2–8. Preflight Inspection

Establish two-way communication with the control tower by means of one of the transceivers in the aircraft. Request voice communication in the frequency range of the receiver. Check for the following during operation (para 2–4) of the receiver:

a. Clarity of received signal.

b. Ease and accuracy of tuning.

c. Loose or binding knobs.

CHAPTER 3

MAINTENANCE INSTRUCTIONS

Section I. GENERAL

Note. The pilot or copilot does not perform preventive or organizational maintenance (R-1433/UR).

3-1. Scope of Maintenance

The maintenance duties assigned to the operator (R-1122/GR), the organizational electronic equipment repairman or crew chief are listed below together with references to paragraphs covering the specific maintenance functions. The tools, materials, and test equipment required are listed in paragraph 3-2.

a. Organizational intermediate preventive maintenance checks and services chart, R-1433/UR (para 3-5).

b. Organizational periodic preventive maintenance checks and services chart, R-1433/UR (para 3-9).

c. Cleaning (para 3-6).

d. Preservation (para 3-7).

e. Daily preventive maintenance checks and services chart, R-1122/GR (para 3-11).

f. Monthly preventive maintenance checks and services chart, R-1122/GR (para 3-13).

3-2. Tools, Materials, and Test Equipment Required

a. Tool Kit, Electrical Equipment TK-105/G.

b. Brush, MIL-G-7241.

c. Dry Cleaning Solvent, Federal Specification PS-661.

d. Lint-free cloth.

e. Cleaning Compound, Federal stock No. 7930-395-9542.

f. Sandpaper, fine, No. 000.

g. Multimeter AN/URM-105.

Section II. PREVENTIVE MAINTENANCE

3-3. General

Preventive maintenance is the systematic care, servicing, and inspection of equipment to prevent the occurrence of trouble, to reduce downtime, and to assure that the equipment is serviceable.

a. Systematic Care. The procedures given in paragraphs 3-6 and 3-7 cover routine systematic care and cleaning essential to proper upkeep and operation of the equipment.

b. Preventive Maintenance Checks and Services. The preventive maintenance checks and services charts (paras 3-5, 3-9, 3-11, 3-13) outline functions to be performed at specific intervals. These checks and services are to maintain Army electronic equipment in a combat serviceable condition; that is, in good general (physical) condition and in good operating condition. To assist the operator, organizational electronic equipment repairman, or crew chief in maintaining combat serviceability, the chart indicates what to check, how to check, and the normal conditions. The "References" column lists the paragraphs or manuals that contain supplementary information. If the defect cannot be remedied by the organizational electronic equipment repairman or crew chief, higher category of maintenance or repair is required. Records and reports of these checks and services must be made in accordance with the requirements set forth in TM 38-750.

3-4. Organizational Intermediate Preventive Maintenance Checks and Services, R-1433/UR

Performs the maintenance functions indicated in the intermediate preventive maintenance checks

and services chart (para 3–5) after every 25 hours of flying time (concurrently with the aircraft intermediate preventive maintenance checks and services to reduce downtime). Equipment that has a deficiency that cannot be remedied at the organizational level should be deadlined in accordance with TM 38–750.

3–5. Organizational Intermediate Preventive Maintenance Checks and Services Chart, R-1433/UR

Sequence No.	Item to be inspected	Procedures	References
		POWER-OFF INSPECTION	
1	Exterior surfaces	*a.* Clean the receiver front panel meter. Check for broken meter glass.	*a.* Para 3–6.
		b. Check all exposed metal surfaces for rust and corrosion	*b.* Para 3–7.
2	Exterior items	*a.* Check tightness of all connectors	*a.* Fig. 3–1.
		b. Check to see that mechanical action of switches and knobs is smooth and free of binding and scraping. Tighten loose mounting screws.	*b.* None.
		POWER-ON INSPECTION	
		Note. If the aircraft engines are operated during the power-on inspection, the pilot or an authorized crew member will start and operate the engines. If the aircraft engines are not operated, use an auxiliary power source to prevent excessive drain on the aircraft battery. Refer to the aircraft technical manuals for connection and power requirements and for setting of communication power controls.	
3	Panel lamps	Turn the OFF-STBY-ON-CAL switch to ON. Panel lamps should light. Check fuse F401, 4.5 amperes.	Fig. 3–3.
4	Communication test	Establish contact with the control tower by means of one of the aircraft transceivers. Request voice transmission in the frequency range of the receiver, and check the receiver for clarity of received signal and accuracy of tuning. If receiver is faulty refer to higher level of maintenance.	Para 2–4.

3–6. Cleaning

Inspect the exterior of the receiver. The exterior surfaces should be clean and free of dirt, grease, and fungus.

a. Remove loose dirt with a clean, soft cloth.

***Warning:* Prolonged breathing of cleaning compound is dangerous; make certain that adequate ventilation is provided. Cleaning compound is flammable; do not use near a flame. Avoid contact with the skin; wash off any that spills on your hands.**

b. Remove grease, fungus, and ground-in dirt from the equipment case; use a cloth dampened (not wet) with cleaning compound.

c. Remove dirt from cable and equipment connectors with a soft brush. Remove grease or grime with a lint-free cloth, moistened with dry cleaning solvent. Dry with compressed air.

***Caution:* Do not press on the face (lens) of the panel meter when cleaning; the meter may become damaged.**

d. Clean the receiver front panel and the control knobs; use a soft, clean, lint-free cloth. If dirt is hard to remove, dampen cloth in water, or for more effective cleaning, use a mild soap.

3–7. Preservation

Remove rust and corrosion from metal surfaces by lightly sanding them with fine sandpaper. Brush two thin coats of paint on the bare metal to protect it from further corrosion. Refer to the applicable cleaning and refinishing practices specified in TM 9–213 and TB SIG 364.

3-8. Organizational Periodic Preventive Maintenance Checks and Services, R-1433/UR

a. General. Perform the maintenance functions indicated in the periodic preventive maintenance checks and services chart (para 3-9), every 100 flying hours (concurrently with the aircraft periodic preventive maintenance checks and services) in addition to the intermediate preventive maintenance checks and services (para 3-5). All deficiencies or shortcomings will be recorded in accordance with the requirements of TM 38-750. Perform all the checks and services given in the chart in the sequence listed.

b. Periodic Pullout Inspection. During the aircraft periodic preventive maintenance checks and services, the electronic equipment will be removed from the aircraft for bench tests and inspections, and replacement electronic equipments will be reinstalled from float stock. These tests and inspections are performed by direct support personnel. Perform the intermediate (para 3-5) and periodic preventive maintenance checks and services after the float stock has been installed.

3-9. Organizational Periodic Preventive Maintenance Checks and Services Chart, R-1433/UR

Sequence No.	Item to be inspected	Procedures	References
1	Publications	Check to see that all pertinent publications are available. This technical manual must be complete and in usable condition, without missing pages. All changes pertinent to this publication must be on hand.	DA Pam 310-4.
2	Modification work orders	Check to see that all URGENT MWO's have been applied to the equipment and that all NORMAL MWO's have been scheduled.	DA Pam 310-4.

Section III. OPERATOR'S MAINTENANCE, R-1122/GR

3-10. Preventive Maintenance Checks and Services Periods

Perform the maintenance functions indicated in the daily preventive maintenance checks and services chart (para 3-11) daily or under the following conditions:

a. When the equipment is initially installed.

b. When the equipment is reinstalled after removal for any reason.

c. At least once each week if the equipment is maintained in standby condition.

3-11. Daily Preventive Maintenance Checks and Services Chart, R-1122/GR

Sequence No.	Item	Procedure	Reference
1	End item equipment	Inspect equipment for completeness	Para 1-7.
2	Exterior surfaces	Clean exterior surfaces, including panel and meter glass. Check meter glass and indicator lens for cracks.	Para 3-6.
3	Connectors	Check tightness of all connectors	Fig. 3-1.
4	Controls and indicators	While making operating checks (item 5), observe that mechanical action of each knob, dial, and switch is smooth and free of external or internal binding, and that there is no excessive looseness. Also, check meter for sticking or bent pointer.	Fig. 2-1.
5	Operation	Operate the equipment. During operation, be alert for any unusual signs or conditions.	Para 2-4.

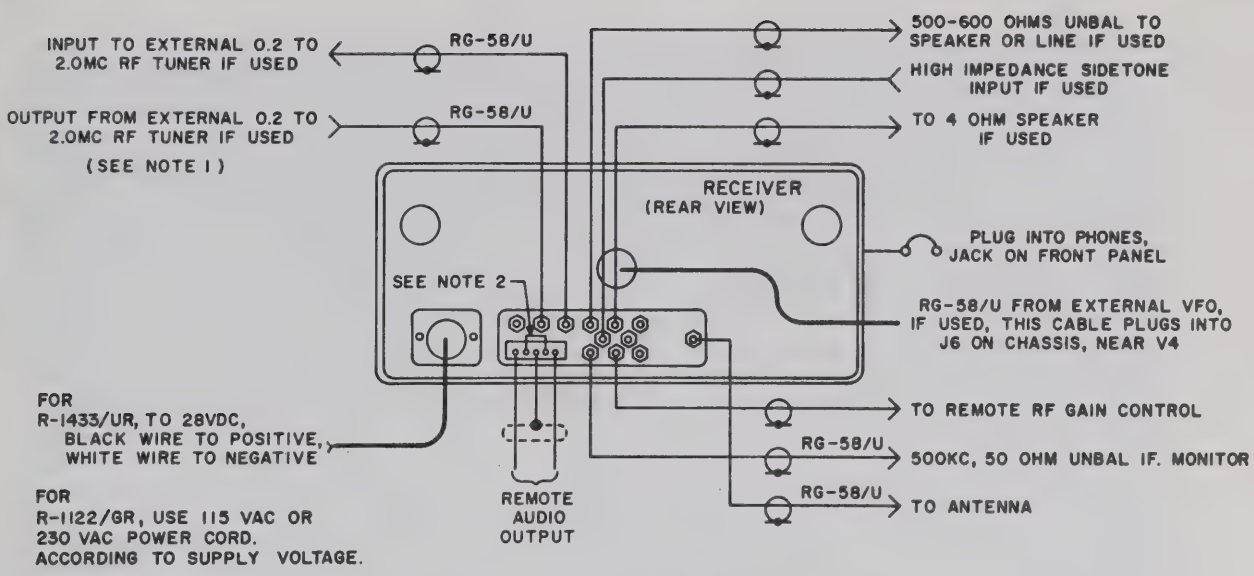
Section IV. ORGANIZATIONAL MAINTENANCE, R–1122/GR

3–12. Monthly Preventive Maintenance Checks and Services

Perform the maintenance functions indicated in paragraph 3–13 once each month. A month is defined as approximately 30 calendar days of 8-hour-per-day operation. If the equipment is operated 16 hours a day, the monthly preventive maintenance checks and services should be performed at 15-day intervals. Adjustment of the maintenance interval must be made to compensate for any unusual operating conditions. Periodic daily services constitute a part of the monthly preventive maintenance checks and services and must be performed concurrently. Equipment maintained in a standby (ready for immediate operation) condition must have monthly preventive maintenance checks and services performed on it. Equipment in limited storage (required service before operation) does not require monthly preventive maintenance.

3–13. Monthly Preventive Maintenance Checks and Services Chart, R–1122/GR

Sequence No.	Item to be inspected	Procedure	References
1	Installation	See that the equipment is properly installed	Figs. 3–1, 3–2.
2	Spare parts	Check all spare parts for general condition and method of storage. There should be no evidence of overstock, and all shortages must be on valid requisition.	Para 1–7.
3	Internal cleanliness	See that the equipment is clean	Para 3–6.
4	Preservation	Clean rust and corrosion from metal surfaces by lightly sanding them with fine sandpaper. Brush 2 thin coats of paint on the bare metal to protect it from further corrosion.	Para 3–7.
5	Publications	See that all publications are complete, serviceable, and current	DA Pam 310–4
6	Modifications	Determine if new applicable MWO's have been published. All URGENT MWO's must be applied immediately. All NORMAL MWO's must be scheduled.	Do.
7	Fuses	Check to see that fuse is of the correct rating for the input voltage applied: —115-volt ac --1.5 amp, and 230-volt ac —0.75 amp.	Fig. 3–4.
8	Cords, cables, and wire	Inspect all cords, cables, and wire for cuts, breaks, fraying, deterioration, kinks, and strains. Repair or replace as required.	None.
9	Resistors	Inspect resistors for cracks, discoloration, and blistering	Do.
10	Capacitors	Inspect fixed capacitors for leaks and bulges	Do.
11	Transformers and chokes	Inspect transformers and chokes for evidence of overheating	Do.
12	Terminal boards	Inspect terminal boards for cracks, loose connections, and breaks.	Do.

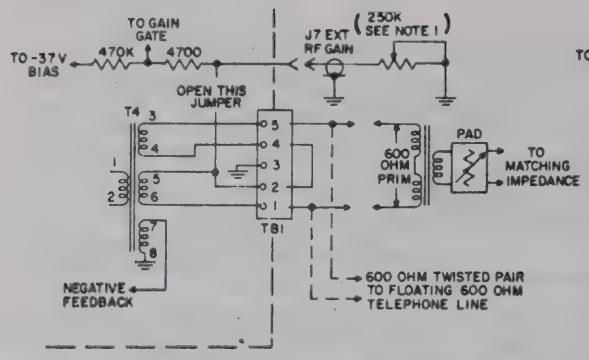


NOTES:

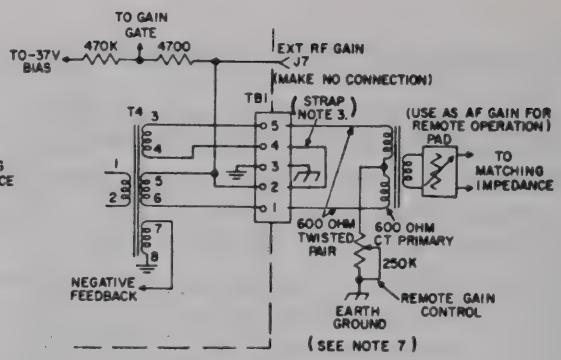
1. EXTERNAL TUNER NOT SUPPLIED.
2. IF REMOTE RF GAIN CONTROL IS REQUIRED, REMOVE STRAP FROM TERMINALS 2, 3, AND 4 AND MAKE JUMPER BETWEEN TERMINALS 2 AND 4 AS SHOWN.

TM 5820-526-12-6

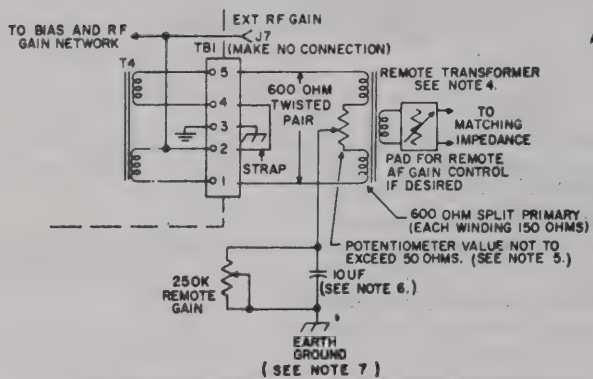
Figure 3-1. Typical receiver external connections.



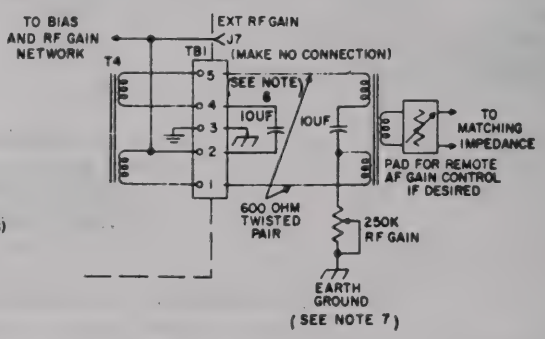
A. 600 OHM FLOATING BAL LINE CONNECTION.



B. 600 OHM BAL CONNECTION WITH CT GROUND REFERENCE AND REMOTE GAIN CONTROL.



C. 600 OHM BAL LINE CONNECTIONS WITH PROVISIONS FOR BALANCE ADJUST AT REMOTE POINT



D. 600 OHM BAL 2-WIRE CONNECTIONS WITH REMOTE RF GAIN

NOTES:

1. KEEP THE REMOTE GAIN CONTROL CONNECTED TO J7 OR FULL BIAS WILL BLOCK THE RECEIVER J7 MUST BE SHORTED TO GROUND IF REMOTE GAIN IS NOT USED.
2. REMOTE GAIN CONTROL, TRANSFORMER, AND SPEAKER COR PHONES MAY BE MOUNTED ON COMMON PANEL OR BOX
3. WHEN TBI GROUND STRAP IS LIFTED FROM TBI-3, J7 MUST BE RETURNED TO GROUND THRU TRANSFORMER WINDINGS AND EXTERNAL RF GAIN CONTROL. IF J7 GROUND RETURN IS LEFT OPEN, FULL BIAS WILL BLOCK THE RECEIVER.
4. REMOTE TRANSFORMER (AT DISTANCE UP TO SEVERAL MILES) TO MATCH MONITOR OR LINE.
5. ADJUST 50 OHM POT TO BALANCE OUT NOISE OR HUM. IF REMOTE GAIN CONTROL IS NOT REQUIRED, GROUND SLIDER TO EARTH.
6. 10UF CAPACITORS NONPOLARIZED.
7. IF EARTH GROUND IS NOT SATISFACTORY, USE SHIELDED TWISTED PAIR AND MAKE GROUND CONNECTION TO BOTH ENDS OF SHIELD.

TM5820-526-12-7

Figure 3-2. 600-ohm line and remote rf gain control options.

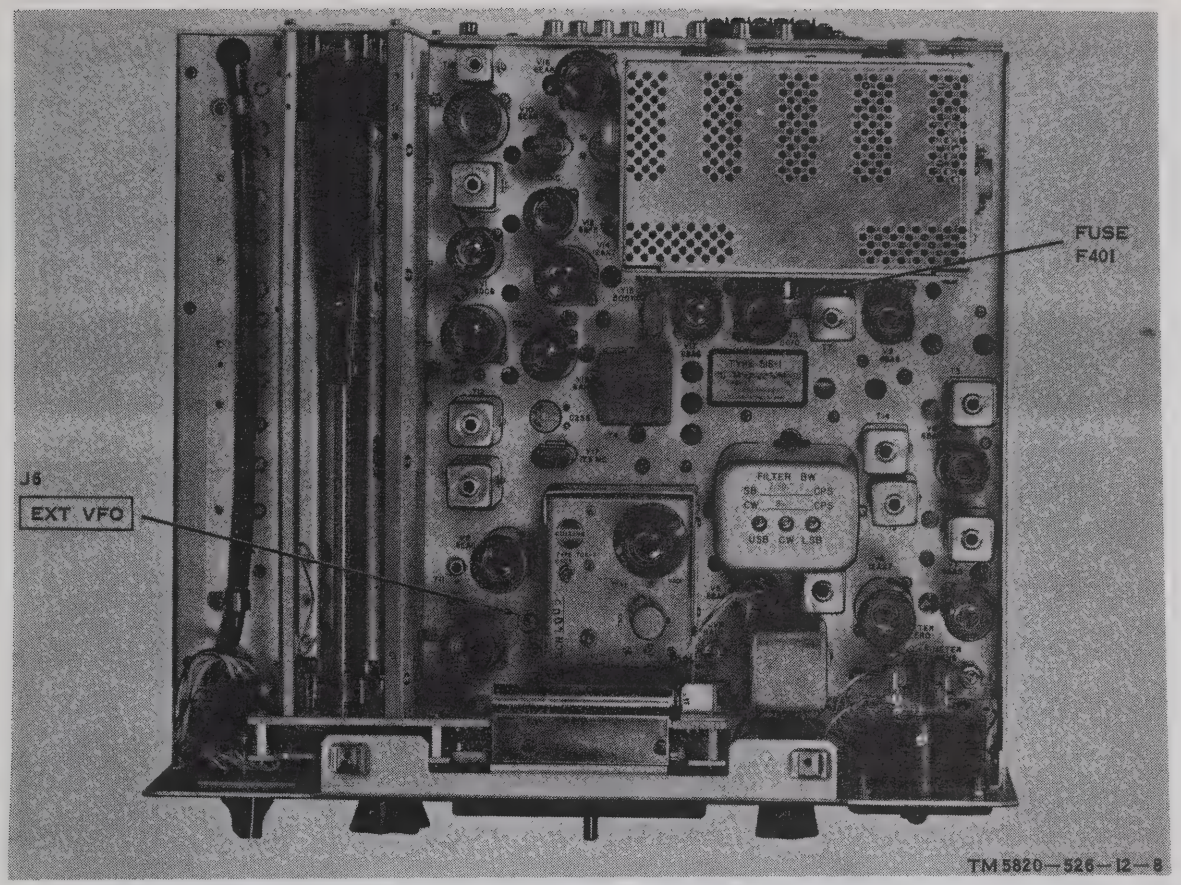


Figure 3-3. R-1433/UR, top view, case removed.

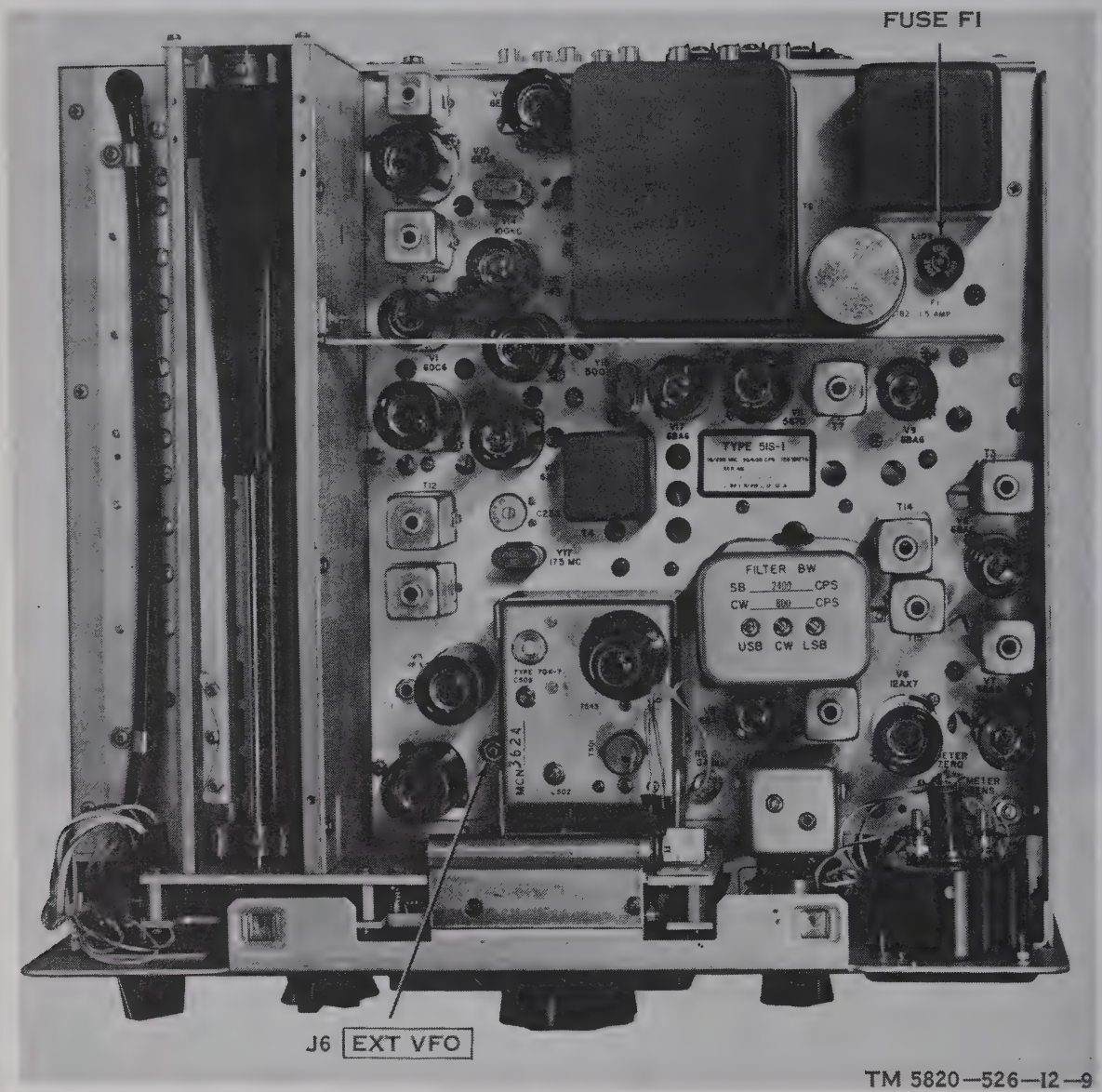


Figure 3–4. R–1122/GR, top view, case removed.

APPENDIX A

REFERENCES

Following is a list of references applicable and available to the organizational repairman of Receivers, Radio R–1122/GR and R–1433/UR:

DA Pam 310–4___. Index of Technical Manuals, Technical Bulletins, Supply Manuals (Types 7, 8, and 9), Supply Bulletins, Lubrication Orders, and Modification Work Orders.

DA Pam 310–6___. Index of Supply Catalogs and Supply Manuals (excluding types 7, 8, and 9).

SB 11–574_____ Additions and Deletions to Tool Kit, Electronic Equipment TK–105/G.

TB SIG 364_____ Field Instructions for Painting and Preserving Electronics Command Equipment.

TM 9–213_____ Painting Instructions for Field Use.

TM 11–6625–203–12. Operator and Organizational Maintenance: Multimeter AN/URM–105, Including Multimeter ME–77/U.

TM 38–750_____ Army Equipment Record Procedures.

APPENDIX C

MAINTENANCE ALLOCATION

Section I. INTRODUCTION

C-1. General

This appendix provides a summary of the maintenance operations covered in the equipment literature for Receiver, Radio R-1433/UR and Receiver, Radio R-1122/GR. It authorizes levels of maintenance for specific maintenance functions on repairable items and components and the tools and equipment required to perform each function. This appendix may be used as an aid in planning maintenance operations.

C-2. Explanation of Format for Maintenance Allocation Chart

a. Group Number. Group numbers correspond to the reference designation prefix assigned in accordance with ASA Y32.16, Electrical and Electronics Reference Designations. They indicate the relation of listed items to the next higher assembly.

b. Component Assembly Nomenclature. This column lists the item names of component units, assemblies, subassemblies, and modules on which maintenance is authorized.

c. Maintenance Function. This column indicates the maintenance level at which performance of the specific maintenance function is authorized. Authoriaztion to perform a function at any level also includes authorization to perform that function at higher levels. The codes used represent the various maintenance levels as follows:

Number	*Maintenance category (or local)*
C	Operator/crew.
O	Organizational.
F	Direct support.
H	General support.
D	Depot.

d. Tools and Equipment. The numbers appearing in this column refer to specific tools and equipment which are identified by these numbers in section III.

e. Remarks. Self-explanatory.

C-3. Explanation of Format for Tool and Test Equipment Requirements

The columns in the tool and test equipment requirements chart are as follows:

a. Tools and Equipment. The numbers in this column coincide with the numbers used in the tools and equipment column of the MAC. The numbers indicate the applicable tool for the maintenance function.

b. Maintenance Category. The numbers in this column indicate the maintenance category normally allocated the facility.

c. Nomenclature. This column lists tools, test and maintenance equipment required to perform the maintenance functions.

d. Federal Stock Number. This column lists the Federal stock number.

e. Tool Number. Not used.

SECTION II. MAINTENANCE ALLOCATION CHART

MAINTENANCE ALLOCATION CHART

GROUP NUMBER	COMPONENT ASSEMBLY NOMENCLATURE	MAINTENANCE FUNCTIONS											TOOLS AND EQUIPMENT	REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
	RECEIVER, RATIO R-1433/UR AND RECEIVER, RADIO R-1122/GR	C												Verify operation
			O										5,12	External continuity and voltage
			F										6,7,8,11	Internal circuitry
			H										1,3,4,6,7,8, 9,11,13,14	Modules, IFs, RFs, meters
				O									12	Visual mechanical, preventive maintenance, completeness
					F								4,9,13	Receiver gain
						F							3,4,6,7,8,9, 11,13,14	RF meter, oscillator, Q multiplier
						H							1,3,4,6,7,8, 9,11,13,14	IFs, RFs, injection frequency, complete receiver
								*						Complete receiver, see note
								F					2,4,6,7,8,11, 13	Modules, megacycle chain drive, turret wafer, mechanical band tuning linkage
										F			2,4,6,7,8,11, 13	Pieceparts, circuitry
										H			1,3,4,6,7,8, 9,11,13	Mechanical drives, linkage, RF turret, power supply, circuitry.
											H		1,3,4,6,7,8, 9,10,14	Complete receiver

* NOTE: See Aircraft Installation MAC for replacement instructions.

NOTE: 70 k VFO to be contractor maintained.

TOOL AND TEST EQUIPMENT REQUIREMENTS

TOOLS AND EQUIPMENT	MAINTENANCE CATEGORY	NOMENCLATURE	FEDERAL STOCK NUMBER	TOOL NUMBER
		R-1433/UR, R-1122/GR (continued)		
1	F,D	ANALYZER, SPECTRUM TS-723/G	6625-668-9418	
2	F	GENERATOR, SIGNAL TS-382/U	6625-192-5094	
3	H,D	METER, FREQUENCY AN/USM-207	6625-911-6368	
4	F,H,D	GENERATOR SET, RF AN/URM-25F	6625-570-5719	
5	O	MULTIMETER AN/URM-105	6625-581-2036	
6	F,H,D	MULTIMETER, ME-26/U	6625-542-6407	
7	F,H,D	MULTIMETER TS-352/U	6625-242-5023	
8	F,H,D	OSCILLOSCOPE AN/USM-140A	6625-987-6603	
9	H,D	MULTIMETER ME-30A/U	6625-643-1670	
10	D	TEST SET, ELECTRONIC TUBE TV-2/U	6625-699-0263	
11	F,H	TEST SET, ELECTRON TUBE TV-7/U	6625-376-4939	
12	O	TOOL KIT, ELECTRONIC EQUIPMENT TK-101/G	5180-064-5178	
13	F,H,D	TOOL KIT, ELECTRONIC EQUIPMENT TK-100/G	5180-605-0079	
14	F,H,D	OUTPUT METER TS-585/U		

APPENDIX D
ORGANIZATIONAL MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS LIST

Section I. INTRODUCTION

1. Scope

This manual lists repair parts and special tools required for the performance of organizational maintenance of the Receiver, R-1122/GR Shock Mounted and Receiver R-1433/UR.

2. General

This Repair Parts and Special Tools List is divided into the following sections:

a. Prescribed Load Allowance (PLA) — Section II. A composite listing of the repair parts, special tools, test and support equipment having quantitative allowances for initial stockage at the organizational level.

b. Repair Parts, Section III. A list of repair parts authorized for the performance of maintenance at the organizational level.

c. Special Tools, Test and Support Equipment — Section IV. (Not Applicable.)

d. Federal Stock Number and Reference Number Index — Section V. A list of Federal Stock numbers in ascending numerical sequence followed by a list of reference numbers (Manufacture P/N) in ascending alphanumeric sequence, cross-referenced to the illustration (figure number and reference designation.

e. Reference Designation Cross-Reference to Page Number Index — Section IV. A list of reference designations cross-referenced to page numbers in ascending sequence.

3. Explanation of Columns

The following provides an explanation of columns in the tabular lists in sections II and III.

a. Source, Maintenance and Recoverability Codes (SMR), Column 1.

(1) Source code indicates the selection status and source for the listed item. Source codes are:

Code	*Explanation*
P	Applies to repair parts that are stocked in or supplied from GSA/DSA or Army supply system, and authorized for use at indicated maintenance categories.
M	Applies to repair parts that are not procured or stocked but are to be manufactured at indicated maintenance levels.
A	Applies to assemblies that are not procured or stocked as such, but are made up of two or more units, each of which carry individual stock numbers and descriptions and are procured and stocked and can be assembled by units at indicated maintenance categories.
X	Applies to parts and assemblies that are not procured or stocked, the mortality of which normally is below that of the applicable end item, and the failure of which should result in retirement of the end item from the supply system.
X1	Applies to repair parts which are not procured or stocked, the requirement for which will be supplied by use of the next higher assembly or component.
X2	Applies to repair parts which are not stocked. The indicated maintenance category requiring such repair parts will attempt to obtain them through cannibalization; if not obtainable through cannibalization, such repair parts will be requisitioned with supporting justification through normal supply channels.
G	Applies to major assemblies that are procured with PEMA funds for initial issue only to be used as exchange assemblies at DSU and GSU level. These assemblies will not be stocked above DSU and GSU level or returned to depot supply level.

(2) Maintenance code indicates the lowest category of maintenance authorized to install the listed item. The maintenance level code is:

Code	*Explanation*
O	Organizational Maintenance

(3) Recoverability code indicates whether unserviceable items should be returned for recovery or salvage. Items not coded are expendable. Recoverability codes are:

Code	*Explanation*
R —	Applies to repair parts and assemblies which are economically repairable at DSU and GSU activities, and normally are furnished by supply on an exchange basis.
S —	Repair parts and assemblies which are economically repairable at DSU and GSU activities, and which normally are furnished by supply on an exchange basis. When items are determined by a GSU to be

Code	Explanation
	uneconomically repairable, they will be evacuated to a depot for evaluation and analysis before final disposition.
T —	Applies to high dollar value recoverable repair parts which are subject to special handling and are issued on an exchange basis. Such repair parts normally are repaired or overhauled at depot maintenance activities.
U —	Applies to repair parts specifically selected for salvage by reclamation units because of precious metal content, critical materials, high dollar value reusable casings or castings.

b. Federal Stock Number Column. This column indicates the Federal Stock Number assigned to the item and will be used for requisitioning purposes.

c. Description Column. This column indicates the Federal item name and any additional description of the item required. A part number or other reference number is followed by the applicable five-digit Federal supply code for the manufacture in parentheses.

d. Unit of Measure (U/M) Column. A 2-character alphabetic abbreviation indicating the amount or quantity of the item upon which the allowances are based, e.g., ft, ea, pr, etc.

e. Quantity Incorporated in Unit Column. This column indicates the quantity of the item used in the assembly group. A "V" appearing in this column in lieu of a quantity indicates that a definite quantity cannot be indicated (e.g., shims, spacers, etc).

f. 15-Day Organizational Maintenance Allowance Column:

(1) The allowance columns are divided into four subcolumns. Indicated in each subcolumn opposite the first appearance of each item is the total quantity of items authorized for the number of equipments supported. Subsequent appearances of the same item will have the letters "REF" in the allowance columns. Items authorized for use as required but not for initial stockage are identified with an asterisk in the allowance column.

(2) The quantitative allowances for organizational level of maintenance represents one initial prescribed load for a 15-day period for the number of equipments supported. Units and organizations authorized additional prescribed loads will multiply the number of prescribed loads authorized by the quantity of repair parts reflected in the density column applicable to the number of items supported to obtain the total quantity of repair parts authorized.

(3) Organizational units providing maintenance for more than 100 of these equipments shall determine the total quantity of parts required by converting the equipment quantity to a decimal factor by placing a decimal point before the next to last digit of the number to indicate hundredths, and multiplying the decimal factor by the parts quantity authorized in the 51-100 allowance column. *Example*, authorized allowance for 51-100 equipments is 40; for 150 equipments multiply 40 to 1.50 or 60 parts required.

(4) Subsequent changes to allowances will be limited as follows: No change in the range of items is authorized. If additional items are considered necessary, recommendation should be forwarded to Commanding General, U. S. Army Electronics Command, ATTN: AMSEL-ME-NMP-AC, Fort Monmouth, N.J. 07703, for exception or revision to the allowance list. Revision to the range of items authorized will be made by the USAECOM National Maintenance Point based upon engineering experience, demand data, or TAERS information.

g. Illustration Column. This column is divided as follows:

(1) Figure Number Column. Indicates the figure number of the illustration in which the item is shown.

(2) Item Number or Reference Designation Column. Indicates the callout number used to reference the item in the illustration.

4. Special Information

a. Identification of the usable on codes included in the description column of this publication are:

Code	Used On
A.....	R-1122/GR Shock Mounted
B.....	R-1433/UR

b. Absence of a usable on code indicates the repair part is applicable to both models.

c. Repair parts mortality is computed from failure rates derived from experience factors with the individual parts in a variety of equipments. Variations in the specific application and periods of use of electronics equipment, the fragility of electronic piece parts, plus intangible material

and quality factors intrinsic to the manufacture of electronic parts, do not permit mortality to be based on hours of end item use; however, long periods of continuous use under adverse conditions are likely to increase repair parts mortality.

d. Parts which require manufacture, stockage, or assembly at a category higher than that authorized for installation will indicate in the source column the higher category; i.e., MDF, AFO, PHF, etc.

5. How to Locate Repair Parts

a. When Federal Stock Number or Reference Number is unknown:

(1) *First.* Find the illustration which depicts the repair part.

(2) *Second.* Identify the repair part on the illustration and note the illustration figure and reference designation of the repair part.

(3) *Third.* Locate the reference designation in the Index-Reference Designation Cross-Reference to page number. Note the page number; then locate the item in the list by the page number.

b. When Federal Stock Number or Reference Number is known:

(1) *First.* Using the Index of Federal Stock Numbers and Reference Numbers, find the pertinent Federal stock number or reference number. This index is in ascending FSN sequence followed by a list of reference numbers in alphanumeric sequence, cross-referenced to the illustration figure number and reference designation number.

(2) *Second.* Using the Reference designation locate the page number in the reference designator to page number index. Note the page number; then locate the item in the list by the page number.

c. When the reference designation is known:

(1) *First.* Locate the reference designation in the Index-Reference Designation Cross-Reference to page number.

(2) *Second.* Note the page number; then locate the item in the list by the page number.

6. Federal Supply Code

This paragraph lists the Federal supply and the associated manufacturer's name.

Code	*Manufacturer*
08664	Bristol Co., The Bristol PLTS MLS
13499	Collins Radio Co.
75543	Lavelle Rubber Co.
77250	Pheoll Mfg. Company
81349	Military Specifications — Promulgated by Standardization Div. Director of Logistics Services, DSA
81860	Barry Wright Corp., Barry Controls Division
96906	Military Specifications — Promulgated by Standardization Div. Directorate of Logistic

7. Recommendations for Maintenance Publication Improvements

The reporting of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications) and forwarded direct to: Commanding General, U. S. Army Electronics Command, ATTN: AMSEL-ME-NMP-EM, Fort Monmouth, N.J. 07703.

SECTION II. PRESCRIBED LOAD ALLOWANCE

(1) FEDERAL STOCK NUMBER	(2) DESCRIPTION	USABLE ON CODE	(3) 15 DAY ORG MAINTENANCE ALLOWANCE (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-10
	RECEIVER, R-1122/GR SHOCK MOUNTED AND RECEIVER -1433/UR					
	GROUP I					
5920-280-5020	FUSE, CARTRIDGE: F02B125V1 12AS (81349)		2	2	2	5
5935-990-2421	CONNECTOR, PLUG, ELECTRICAL: 919 (81091)	A				2
6760-771-3431	MOUNT, RESILIENT: B43CB6 (81860)					2
5920-281-0225	FUSE, CARTRIDGE: F02A250V6AS (81349)		2	2	2	5
6240-057-2887	LAMP, INCANDESCENT: 262-3220-000 (13499)				2	2
6240-155-8706	LAMP, INCANDESCENT: MS15571-2 (96906)				2	2

SECTION III. REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION Reference Number & Mfr Code	USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALW. (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG. NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
		RECEIVER, R-1122/GR SHOCK MOUNTED AND RECEIVER -1433/UR									
		GROUP I									
P--O--	5920-280-5020	FUSE, CARTRIDGE: F02B125V1 12AS (81349)		EA	1	2	2	2	5	4	A3F1
P--O--	6760-771-3431	MOUNT, RESILIENT: B43CB6 (81860)		EA	4	*	*	*	2	1	MP1
P--O--	5310-042-9067	WASHER, LOCK: 310-0283-000 (13499)		EA	16	*	*	*	*	1	MP1H9
		GROUP IB									
		RECEIVER, RADIO, R-1122/GR: 522-2245-030 (80058)	A	EA	1					1	A1
		RECEIVER, RADIO, R-1433/UR: 522-2546-030 (80058)	B	EA	1					2	A1
P--O--	5820-930-8453	CABINET, ELECTRICAL EQUIP-RCVR: 547-2742-006 (13499)		EA	1	*	*		*	1	A1MP63
P--O--	5305-637-5968	SCREW, MACHINE: P342-0168-000 (77250)		EA	2	*	*	*	*	1	A1MP63 H2
P--O--	5920-281-0225	FUSE, CARTRIDGE: F02A250V6AS (81349)		EA	1	2	2	2	5	3	A1F401
P--O--	6240-057-2887	LAMP, INCANDESCENT: 262-3220-000 (13499)		EA	1	*	*	2	2	3	A1DS1
P--O--	6240-155-8706	LAMP, INCANDESCENT: MS15571-2 (96906)		EA	1	*	*	2	2	3	A1DS2
P--O--	5355-051-6855	KNOB: 281-0330-000 (13499)		EA	1	*	*	*	*	2	A1A1O10
P--O--	5355-933-2386	KNOB ASSEMBLY, FOUR FLUTED: 548-8244-000 (13499)		EA	1	*	*	*	*	2	A1A1O8
P--O--		SETSCREW: 8-32X3-16 6SPLINE 18 (08664)		EA	2	*	*	*	*	2	A1A1O8H2
P--O--	5355-971-0588	KNOB ASSEMBLY-POINTER, NUMBER 2: 543-8039-000 (13499)		EA	3	*	*	*	*	2	A1A1O1
P--O--	5355-971-0588	KNOB ASSEMBLY-POINTER, NUMBER 2: 543-8039-000 (13499)		EA	1	REF	REF	REF	REF	2	A1A1O2
P--O--	5355-971-0588	KNOB ASSEMBLY-POINTER, NUMBER 2: 543-8039-000 (13499)		EA	1	REF	REF	REF	REF	2	A1A1O3
P--O--	5355-767-5032	KNOB ASSEMBLY SKIRTED - "D": 546-1296-003 (13499)		EA	1	*	*	*	*	2	A1A1O7
P--O--	5355-063-3061	KNOB, BAR-SMALL: 544-7268-002 (13499)		EA	1	*	*	*	*	2	A1A1O6
P--O--	5305-206-2080	SETSCREW: 6-40X1-8 4SPLINE416SST (08664)		EA	1	*	*	*	*	2	A1A1O6H1
P--O--	5355-027-0331	KNOB, POINTER-NUMBER 25: 548-8243-004 (13499)		EA	1	*	*	*	*	2	A1A1O4
P--O--		SETSCREW: 8-32X3-16 6SPLINE18-8SST (08664)		EA	1	*	*	*	*	2	A1A1O4H1
P--O--	5355-971-9303	KNOB, SPINNER-NUMBER 35 DS: 547-1824-003 (13499)		EA	1	*	*	*	*	2	A1A1O9
P--O--		SETSCREW: 8-32X3-16 6SPLINE18-8SST (08664)		EA	2	REF	REF	REF	REF	2	A1A1O9H2

SECTION V. INDEX-FEDERAL STOCK NUMBER AND REFERENCE NUMBER

CROSS REFERENCE TO FIGURE AND ITEM NUMBER (CONTINUED)

FEDERAL STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER OR REF. DESIGNATION
5305-206-2089	2	A1A1OGH1
5355-027-0331	2	A1A1O4
5355-063-3061	2	A1A1O6
5355-767-5032	2	A1A1O7
5355-933-2386	2	A1A1O8
5355-971-9303	2	A1A1O9
5820-930-8153	1	A1MP63
5920-281-0225	3	A1F1
6240-057-[illegible]887	3	A1DS1
6240-15[illegible]-8706	3	A1DS2

FEDERAL STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER OR REF. DESIGNATIO

SECTION V. INDEX-FEDERAL STOCK NUMBER AND REFERENCE NUMBER

CROSS REFERENCE TO FIGURE AND ITEM NUMBER (CONTINUED)

REFERENCE NO.	MFG CODE	FIG. NO.	ITEM NO.
B43CB6	81860	1	MP1
F02A250V6AS	81349	3	A1F1
F02B125V1 1-2AS	81349	4	A1A1A3F1
		-	W104A1MP1F1
MS15571-2	96906	3	A1DS2
P342-0168-00	77250	1	A1MP63H2
S060CADPL	08664	3	A1MP65
S076-4CADPL	08664	3	A1MP66
S096CADPL	08664	3	A1MP64
		3	A1DS1
281-0330-000	13499	2	A1A1O10
310-0283-000	13499	1	MP1H9
543-8039-000	13499	2	A1A1O1
		2	A1A1O2
		2	A1A1O3
544-7268-002	13499	2	A1A1O6
546-1296-003	13499	2	A1A1O7
547-1824-003	13499	2	A1A1O9
547-2742-006	13499	1	A1MP63
548-8243-004	13499	2	A1A1O4
548-8244-000	13499	2	A1A1O8
6-40X1-8 4SPLINE416SST	08664	2	A1A1O6H1
8-32X3-16 6SPLINE18-8SST	08664	2	A1A1O8H2
		2	A1A1O4H1
		2	A1A1O9H2

SECTION VI. INDEX-REFERENCE DESIGNATION CROSS-REFERENCE TO PAGE NUMBER

REFERENCE DESIGNATION	PAGE NO	REFERENCE DESIGNATION	PAGE NO	REFERENCE DESIGNATION	PAGE NO
A1	D- 5				
A1	D- 5				
A1A1O1	D- 5				
A1A1O10	D- 5				
A1A1O2	D- 5				
A1A1O3	D- 5				
A1A1O4	D- 5				
A1A1O4H1	D- 5				
A1A1O6	D- 5				
A1A1O6H1	D- 5				
A1A1O7	D- 5				
A1A1O8	D- 5				
A1A1O8H2	D- 5				
A1A1O9	D- 5				
A1A1O9H2	D- 5				
A1DS1	D- 5				
A1DS2	D- 5				
A1E1	D- 5				
A1W1	D- 5				
A1W1P1H1	D- 5				
A1XF1	D- 5				
A1XP1	D- 5				
A1XP1H1	D- 5				

Figure 1. Receiver Radio, R1122/GR shock mounted.

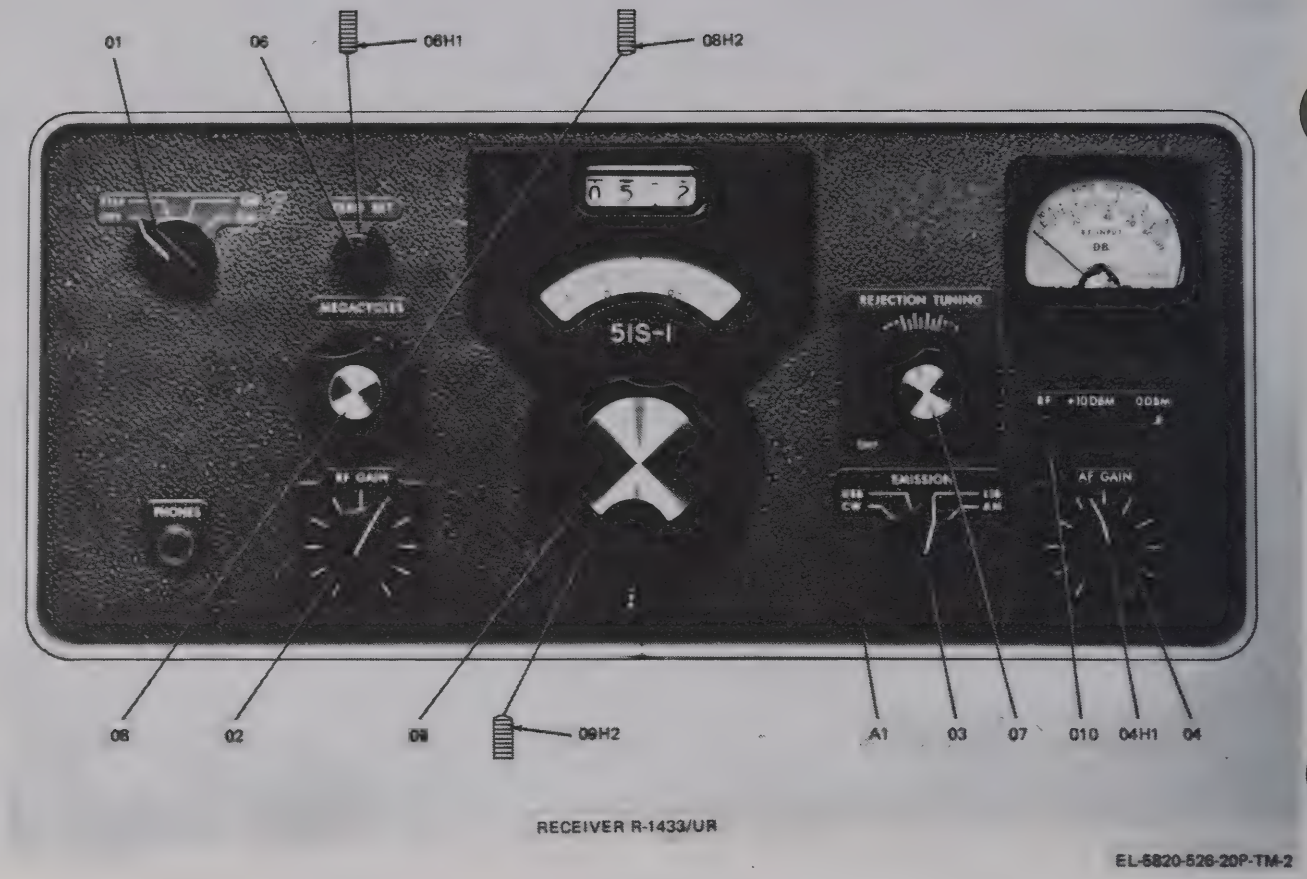


Figure 2. Receiver, Radio R-1433/UR.

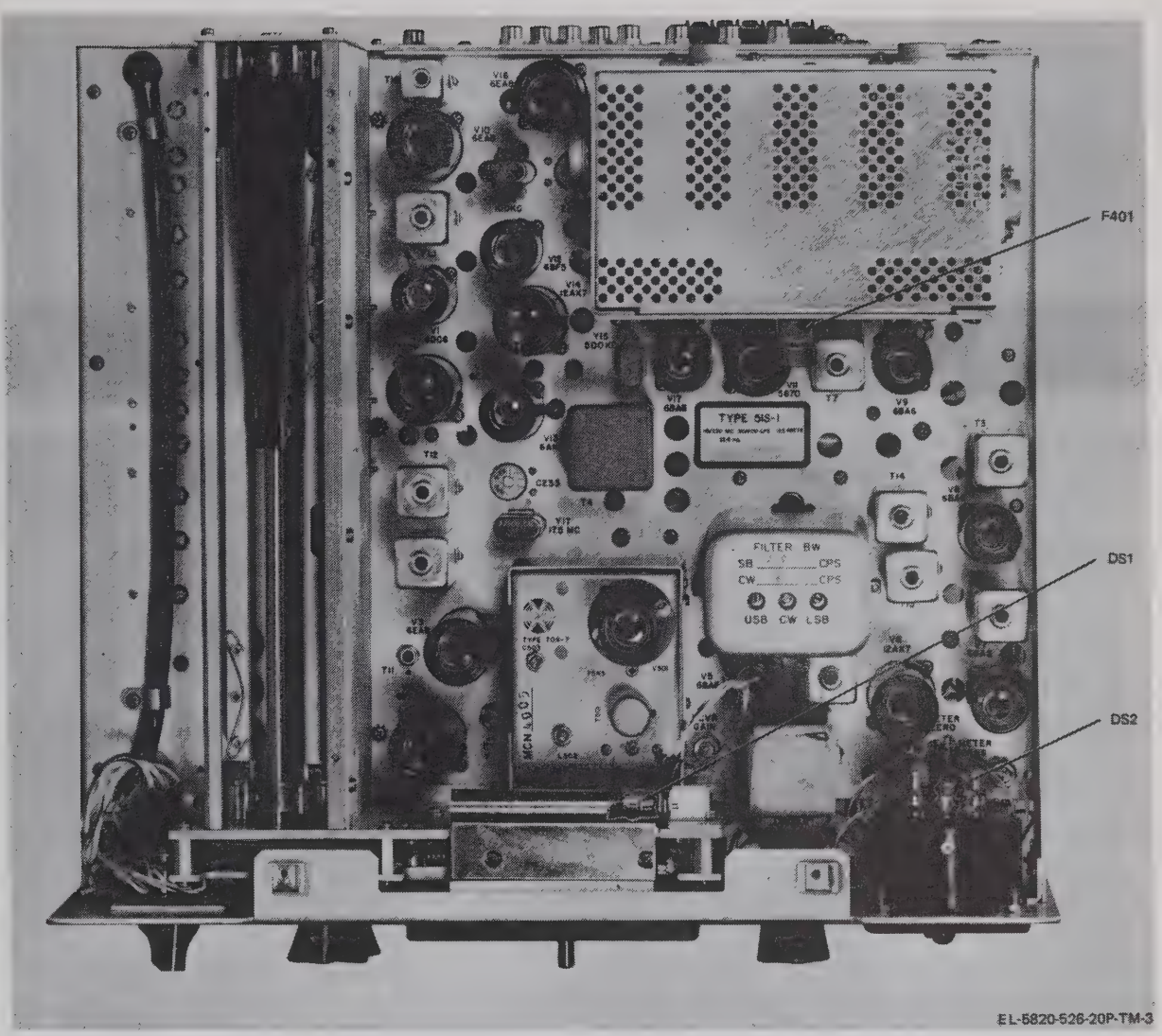


Figure 3. Receiver R-1433/UR, case removed.

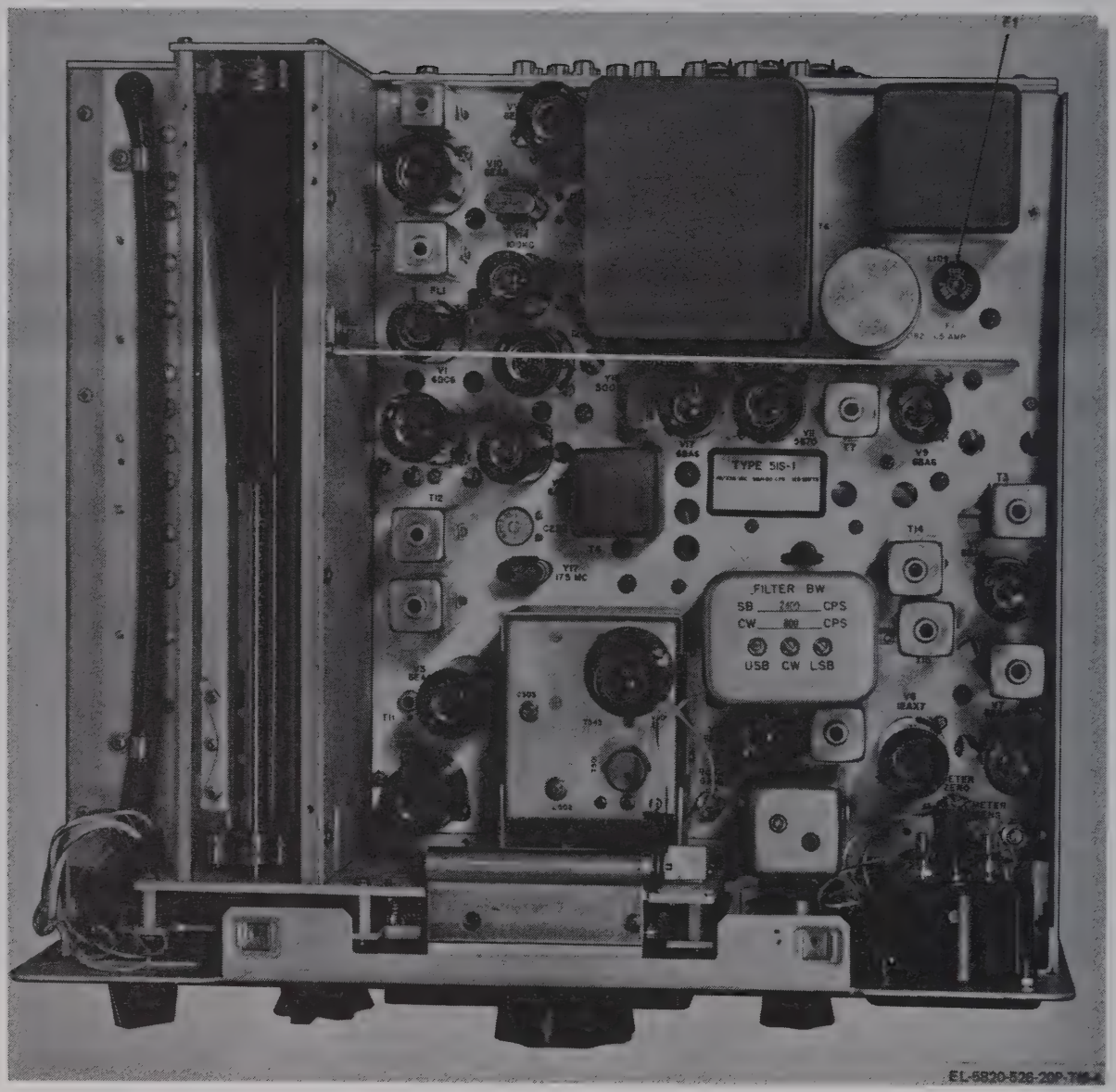


Figure 4. Receiver R-1122/GR, case removed.

By Order of the Secretary of the Army:

HAROLD K. JOHNSON,
General, United States Army,
Chief of Staff.

Official:
KENNETH G. WICKHAM,
Major General, United States Army,
The Adjutant General.

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